

800W Common Redundancy Power Supply (CRPS)

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General Description

This document defines the functional requirements for 800W AC-TO-DC and DC-TO-DC POWER SUPPLY MODULE with assembly, intended for worldwide use in electronic data processing equipment. The power supply unit shall contain fan(s) for forced air-cooling. The power supply may be used singly or in redundant configurations up to 4 power supply units. All specifications are applicable under all operating conditions when installed in the User System, unless otherwise stated.

Features

- * 80 PLUS® Platinum
- * Holdup Time 70% Load: 12ms
- * DC Input Range 164Vdc ~ 300Vdc
- * Output Voltage 12 Vdc
- * N+M (≤ 4) Redundant power supply with Hot plug, current sharing and remote sensing
- * IEC/EN 62368-1 design compliance
- * Up to 5000 meters operating altitude (note #4)
- * PMBus Compliant 1.2
- * High reliability



Electrical Specification

Model Name	RPG800-12AS	
Output		
Rated power	800W	
Rated voltage	12.2 V	12 Vsb
Rated current	66A	2.5A
Ripple & Noise(max.) (note #2)	120mV	120mV
Line & load regulation	±5%	±5%
Hold-up time(typ.)	12ms	
Timing: AC ON delay / rising (max.)	3 sec / 50ms	
Input		
Rated voltage range	100~240Vac	
Operated voltage range	90~264Vac, 300Vac for 5 sec	
Current range (max.)	10A/100Vac	
Inrush current	The Cold start inrush current during 1~1150ms or less will not exceed 35A	

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	peak. The Warm start inrush current (cycle ON/OFF) during 1~1150ms or less will not exceed 55A peak.
Frequency range	50-60Hz
Leakage current (max.)	The leakage current at 240Vac/60Hz shall not be over 0.875mA
Average efficiency (min.)	Efficiency shall be tested at AC input voltages of 230VAC as defined by 80 PLUS® standards.
Protection Function	
Over voltage (max.)	13V-15V of rated voltage, +12VDC shall be shutdown in a latch off mode. +12VSB over or under voltage protection, the +12VDC and +12VSB shall be shutdown in a retry hiccup mode.
Over current (max.)	150% of rated current, hiccup mode protection until fault is removed
Short circuit at O/P	No damage, hiccup mode protection until fault is removed.
Over temperature	No damage, latch protection until AC input reset
Others	
MTBF (min.) (note#3)	200K hours @ rated load
Environment	
Temperature (note#5)	(operating) -5~55°C / (storage) -40~85°C
Humidity	(operating) 5~85% RH non-condensing / (storage) 5~95% RH
Altitude (max.)	5000 meters
Mechanical	
Dimension	73.5(L)*185(W)*40mm(H)
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)
Weight (typ.)	815g±30 g
Safety	
Standard	CB/IEC62368-1,TUV62368-1,UL62368-1,EN62368-1, CCC GB4943.1,BSMI CNS15598-1,KC62368-1
Withstand voltage	Input-Output: 4242VDC
Isolation resistance(min.)	Input-Output: 30Mohm @ 500VDC, 25°C, 70%RH
EMC	
EN55032 (CISPR32)	Conducted EMI: class A / Radiated EMI: class A
FCC	Conducted EMI: class A / Radiated EMI: class A
EN61000-3-2	Harmonic distortion: Class D
EN61000-4-2	ESD: ±8KV contact discharge / ±15KV contact discharge
EN61000-4-3	Radiated RF immunity: 10V/m

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EN61000-4-4	EFT: $\pm 0.5\text{KV}$ (AC port)
EN61000-4-5	Surge: $\pm 1\text{KV DM} / \pm 2\text{KV CM}$
EN61000-4-6	Conducted RF immunity: 10V/m
EN61000-4-8	Magnetic field immunity: 3A/m
EN61000-4-11	Voltage dip immunity

Notes

#1: All specification defined at 230Vac/50Hz, rated power and 25°C ambient temperature if not mentioned specifically.

#2: Periodic and Random Deviation ripple / noise is measured with a resistor load (not an electronic load). Measurement is made with a "SMB to BNC Male Coaxial Cable, 50 Ohm, 1m" connected across the decoupling capacitance and with a 20MHz bandwidth setting in oscilloscope. The decoupling capacitors are low ESR ceramic capacitor 0.1uF and tantalum capacitor 10uF.

#3: Calculated by Telcordia SR332 at 230Vac/50Hz, rated power and 55°C ambient temperature.

Mechanical Specification

